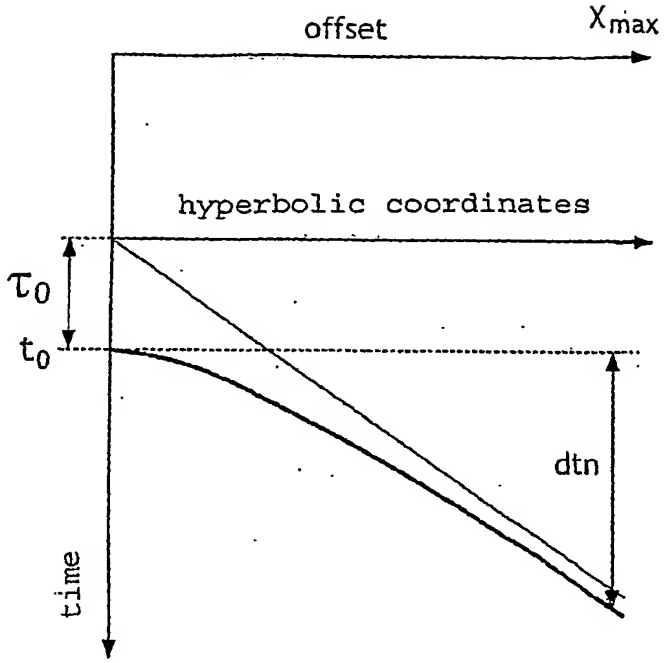

offset
X_{max}
hyperbolic coordinates
τ_0
t_0
dtn
time

FIG_1a

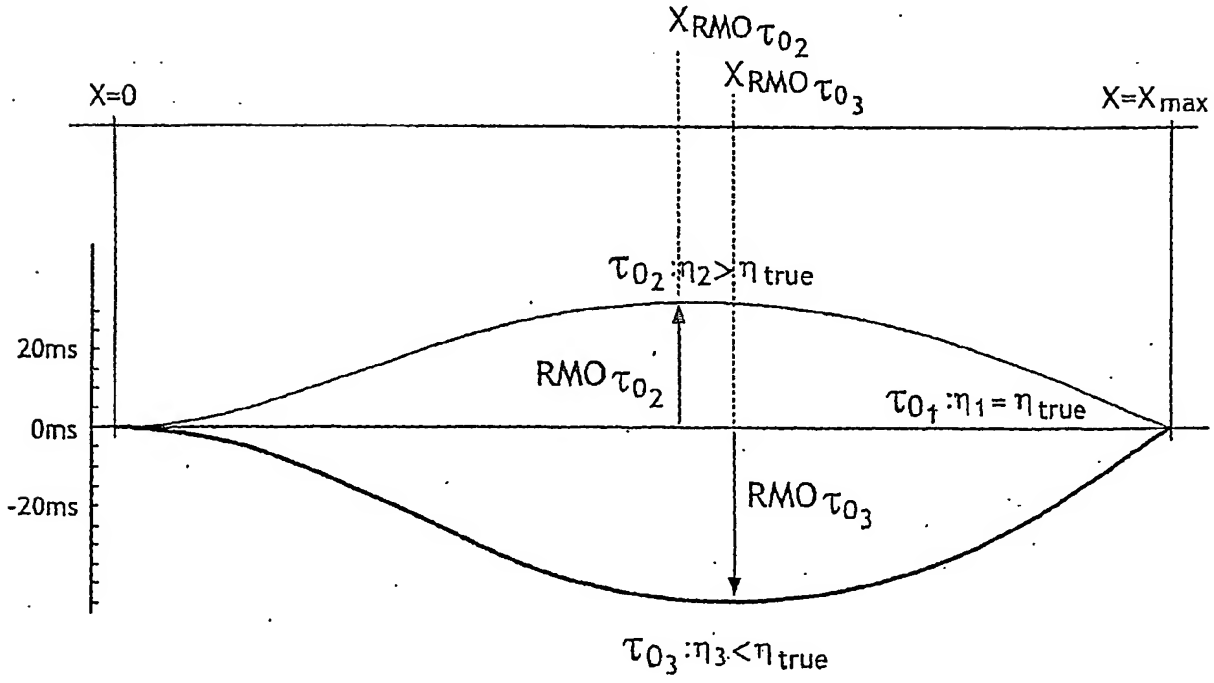

$X_{RMO\tau_{02}}$
$X_{RMO\tau_{03}}$
X=0
X=X_{max}
τ_{02} :η_2>η true
20ms
$RMO\tau_{02}$
τ_{0t} :η_1 = η true
0ms
-20ms
$RMO\tau_{03}$
τ_{03} :η_3<η true

FIG_2

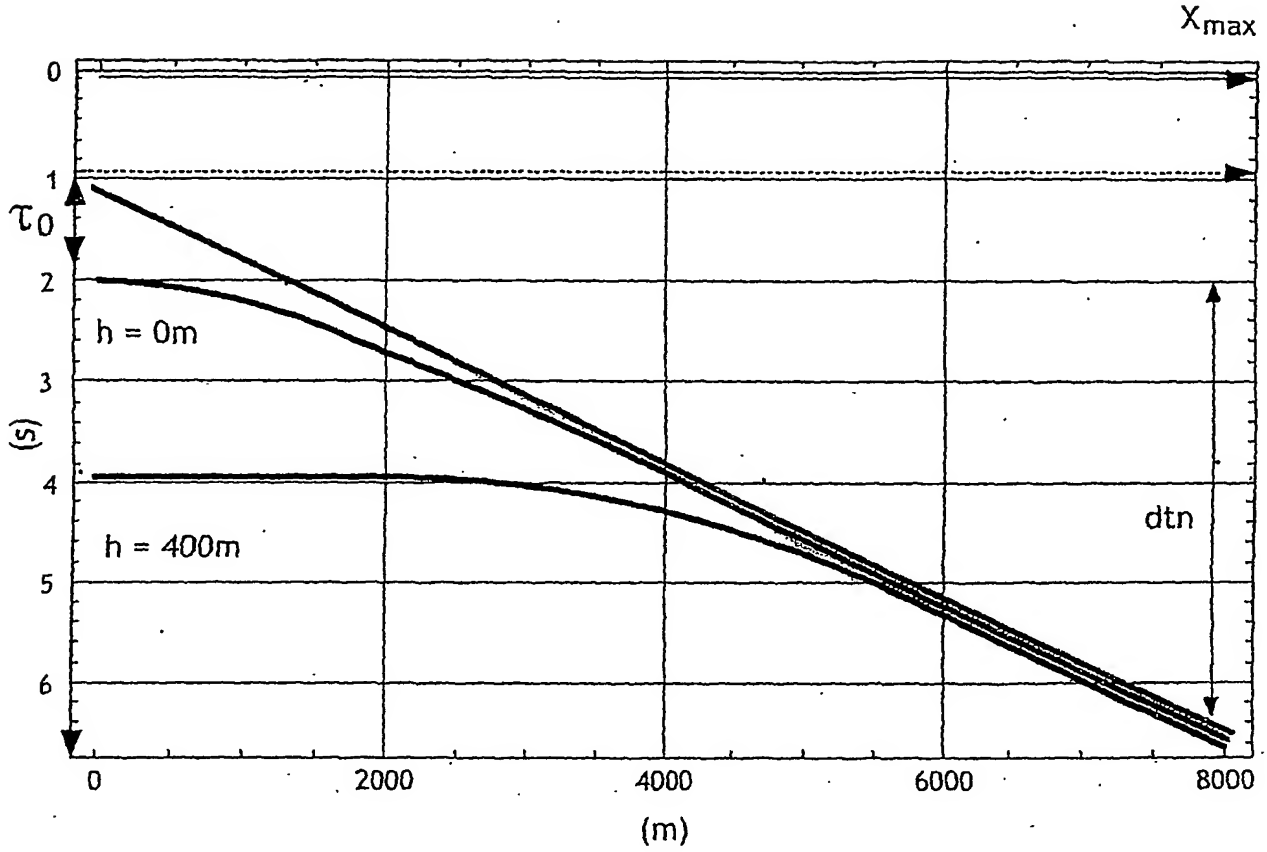


FIG_1b

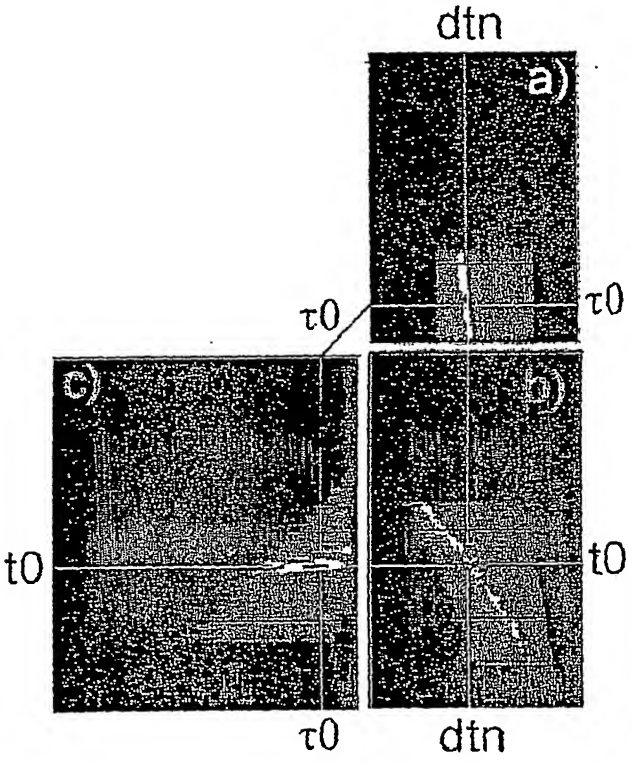


FIG_3a

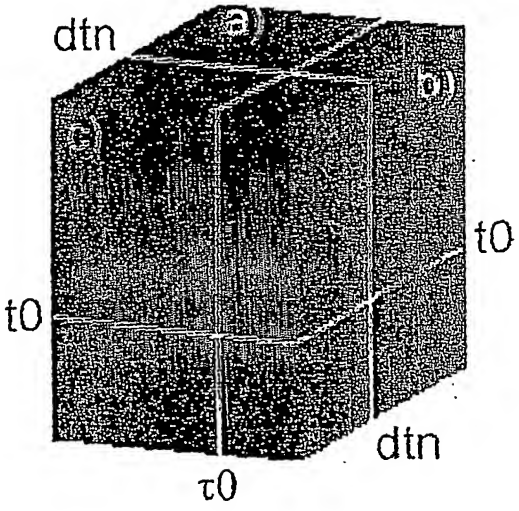


FIG_3b

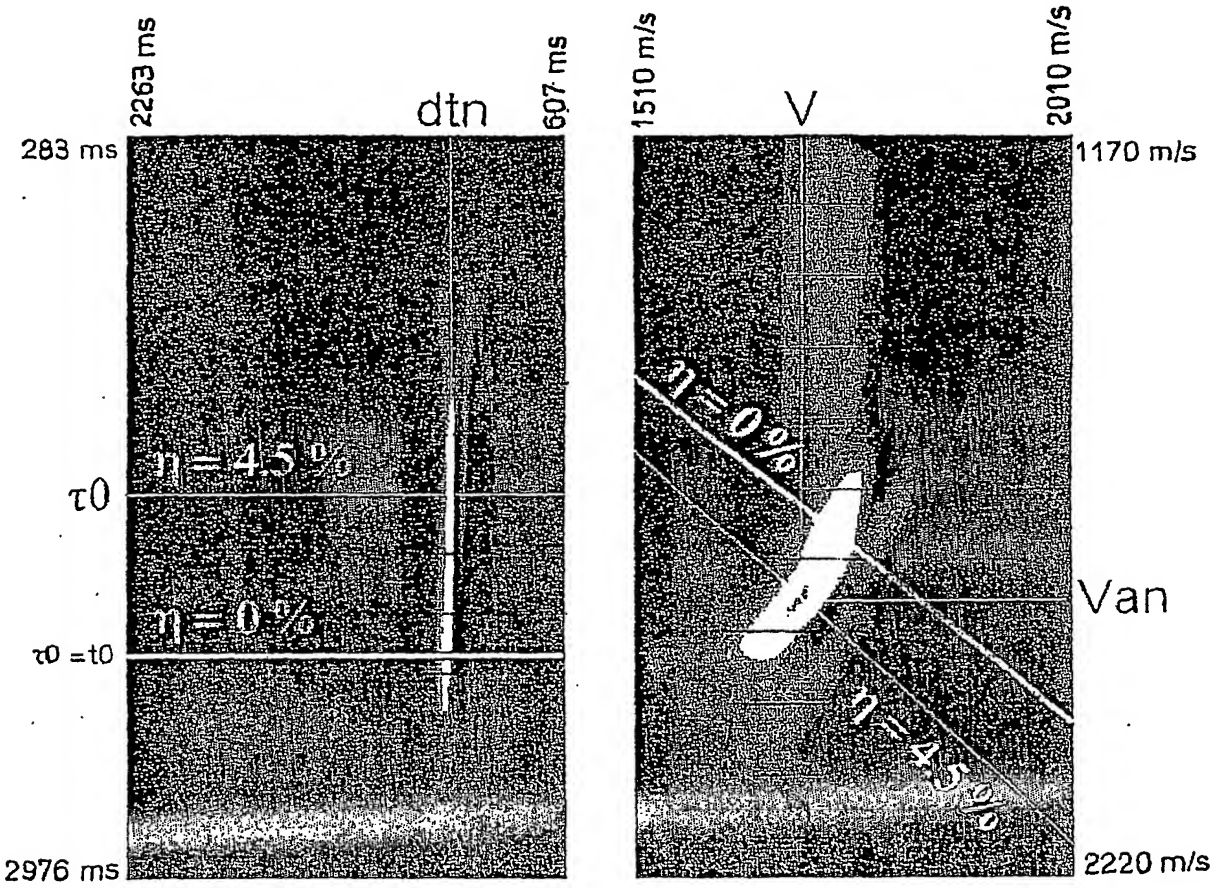

2263 ms
dtn
607 ms
283 ms
η = 45 %
τ0
η = 0 %
τ0 = t0
2976 ms
1510 m/s
V
2010 m/s
1170 m/s
η = 0 %
Van
η = 45 %
2220 m/s

FIG_4

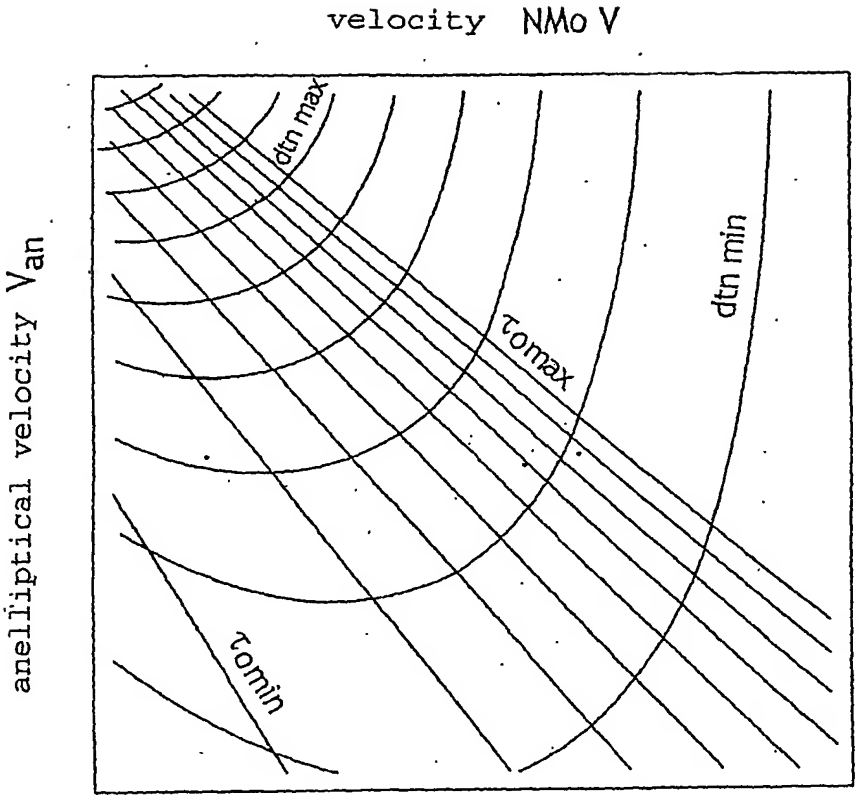

velocity NMo V
anelliptical velocity V_{an}
dtn max
dtn min
τomax
τomin

FIG_5

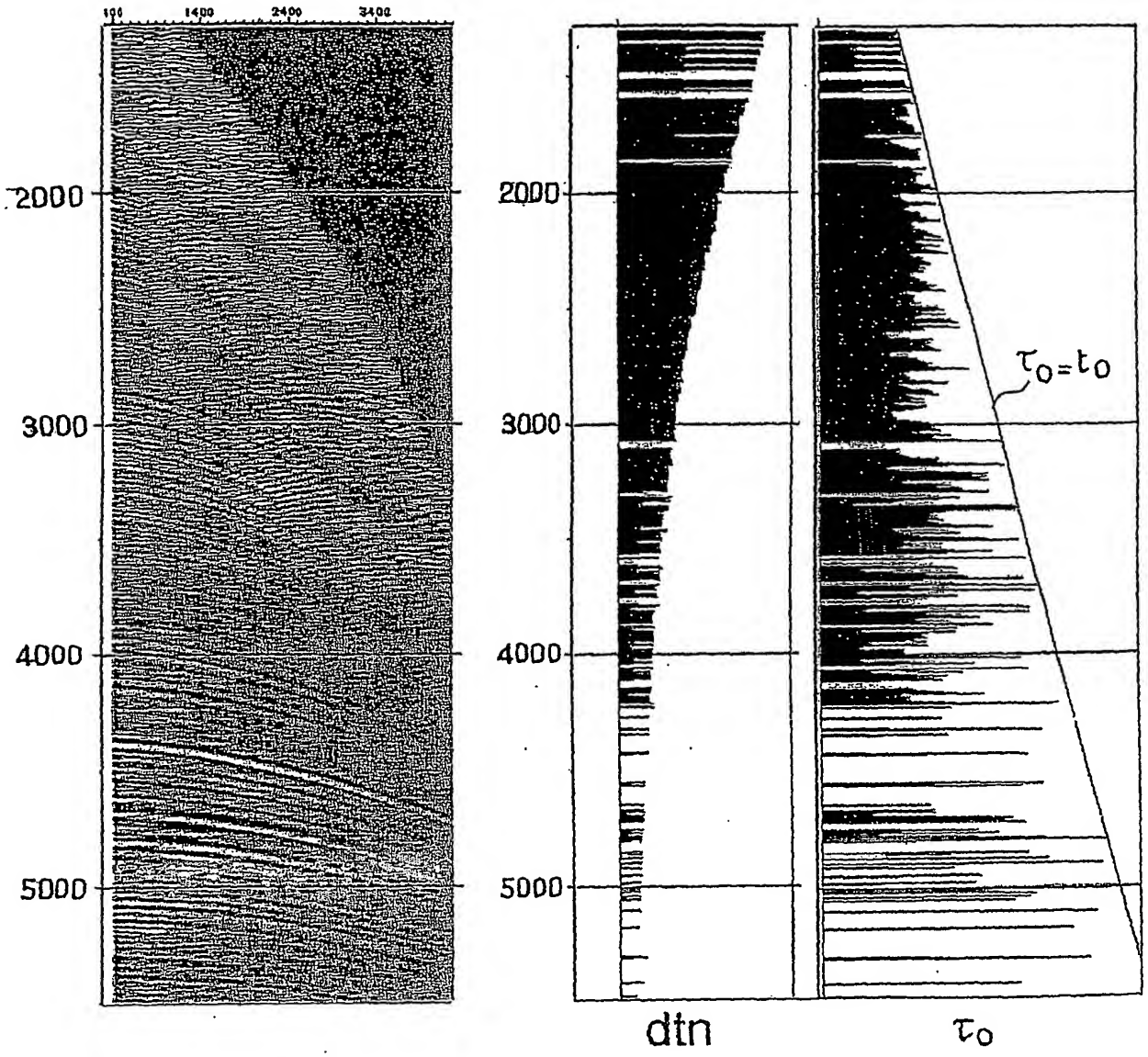

1400
2400
3400
2000
3000
4000
5000
2000
3000
4000
5000
$\tau_o = t_o$
dtn
τ_o

FIG_6

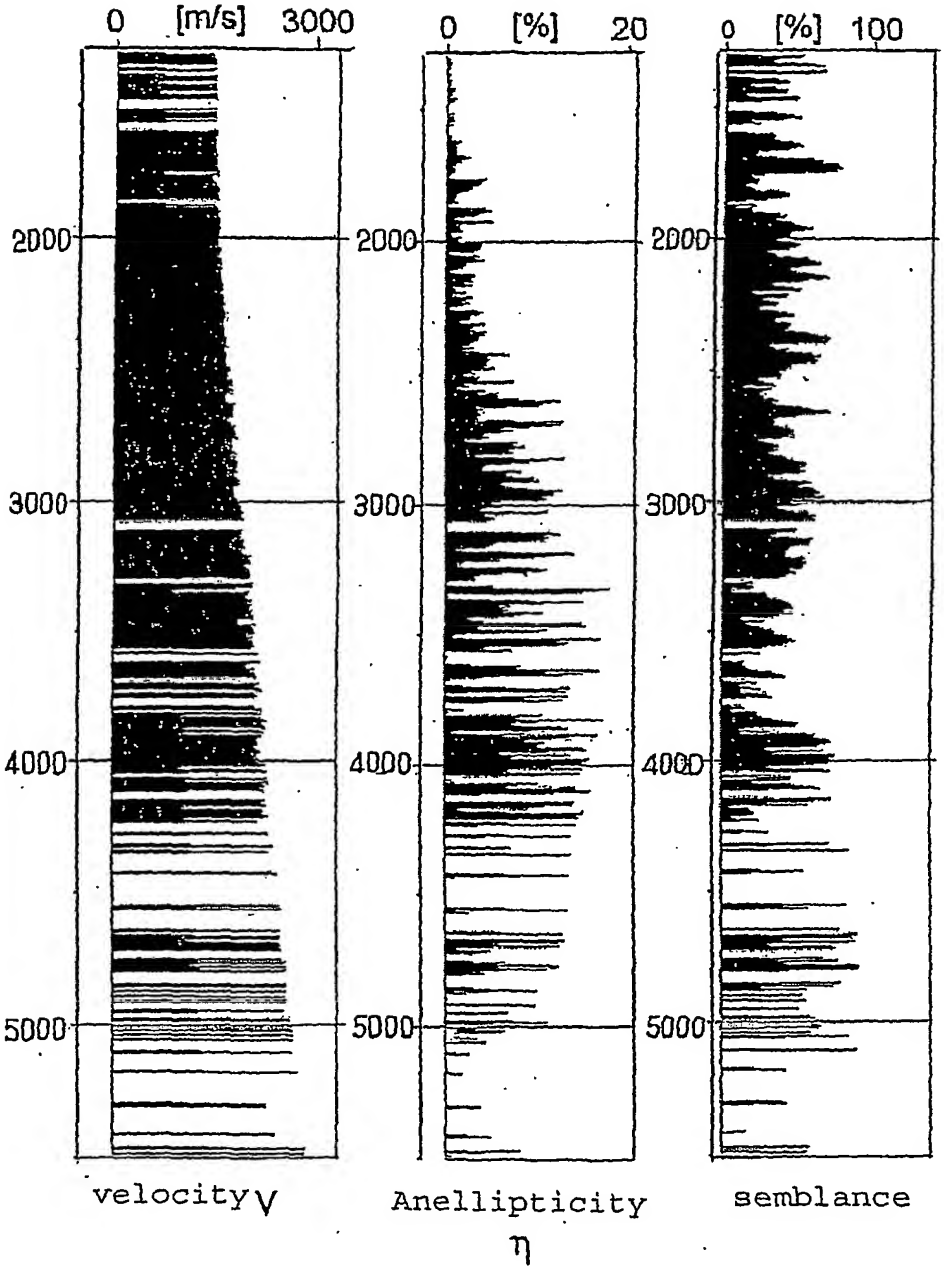

0 [m/s] 3000
0 [%] 20
0 [%] 100
2000
3000
4000
5000
velocity V
Anellipticity η
semblance

FIG_7

FIG_8a

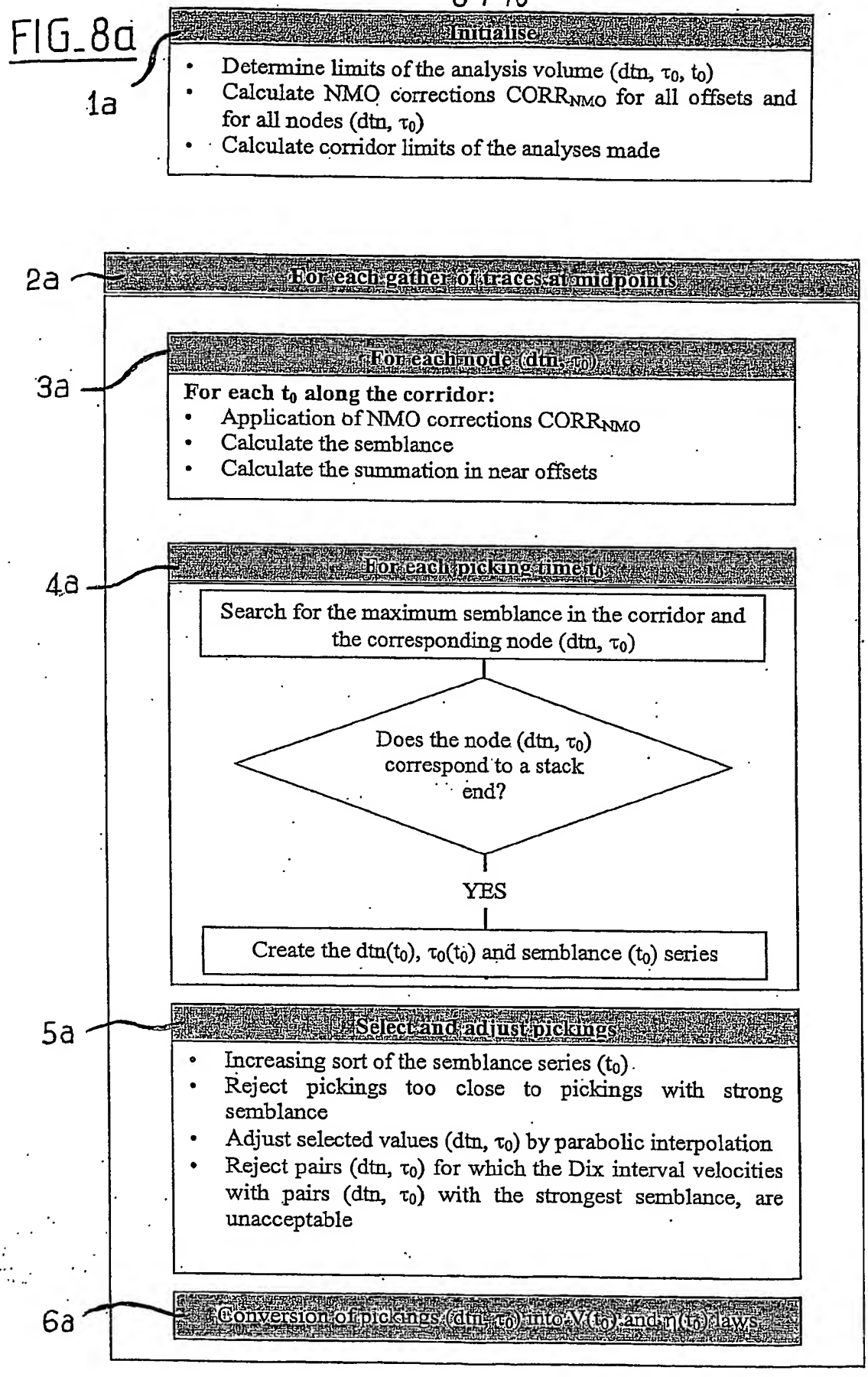

1a
Initialise
• Determine limits of the analysis volume (dtn, τ_0, t_0)
• Calculate NMO corrections $CORR_{NMO}$ for all offsets and for all nodes (dtn, τ_0)
• Calculate corridor limits of the analyses made
2a
For each gather of traces at midpoints
3a
For each node (dtn, τ_0)
For each t_0 along the corridor:
• Application of NMO corrections $CORR_{NMO}$
• Calculate the semblance
• Calculate the summation in near offsets
4a
For each picking time t_0
Search for the maximum semblance in the corridor and the corresponding node (dtn, τ_0)
Does the node (dtn, τ_0) correspond to a stack end?
YES
Create the dtn(t_0), τ_0(t_0) and semblance (t_0) series
5a
Select and adjust pickings
• Increasing sort of the semblance series (t_0)
• Reject pickings too close to pickings with strong semblance
• Adjust selected values (dtn, τ_0) by parabolic interpolation
• Reject pairs (dtn, τ_0) for which the Dix interval velocities with pairs (dtn, τ_0) with the strongest semblance, are unacceptable
6a
Conversion of pickings (dtn, τ_0) into V(t_0) and η(t_0) laws

FIG_8b

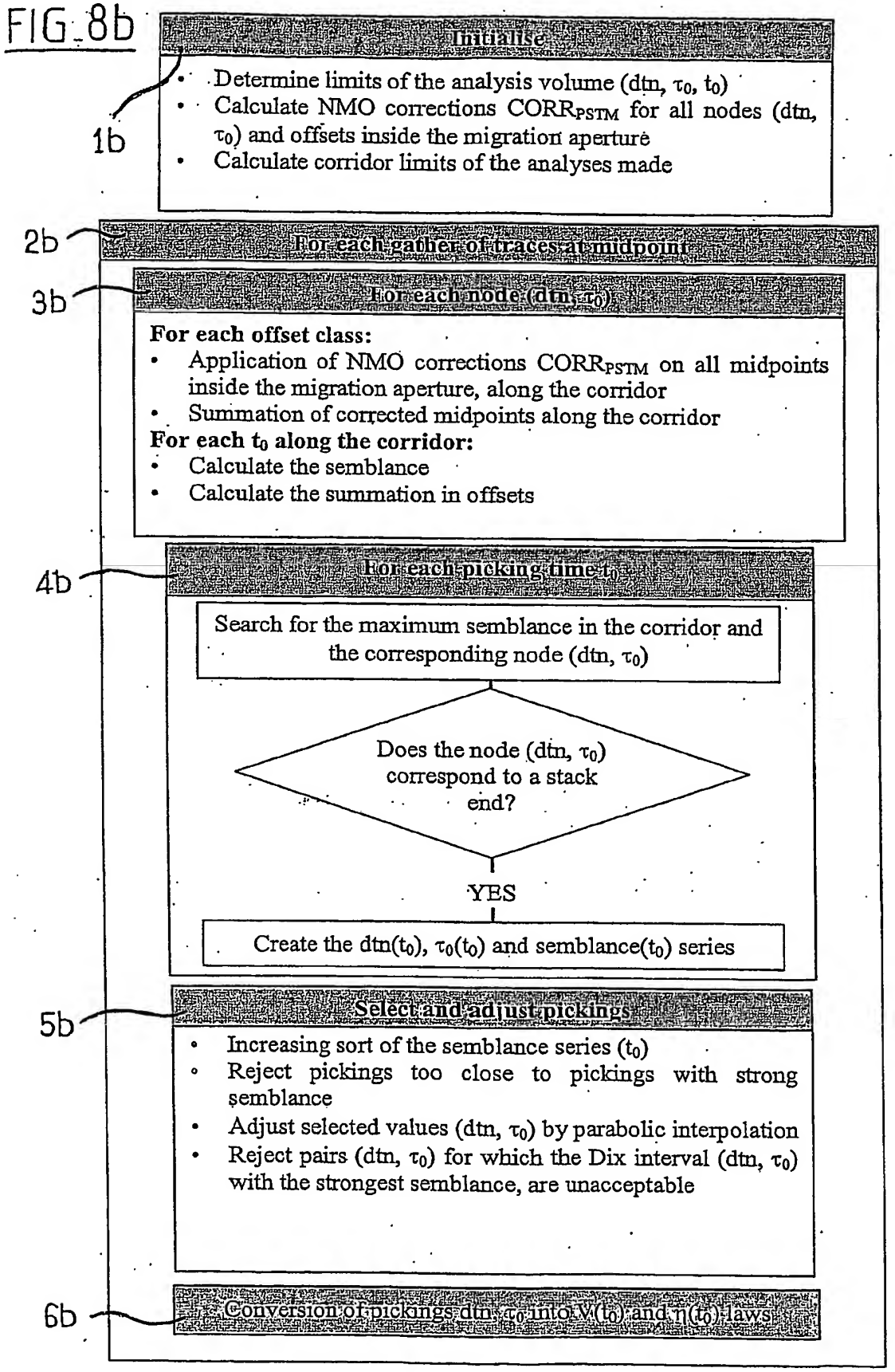
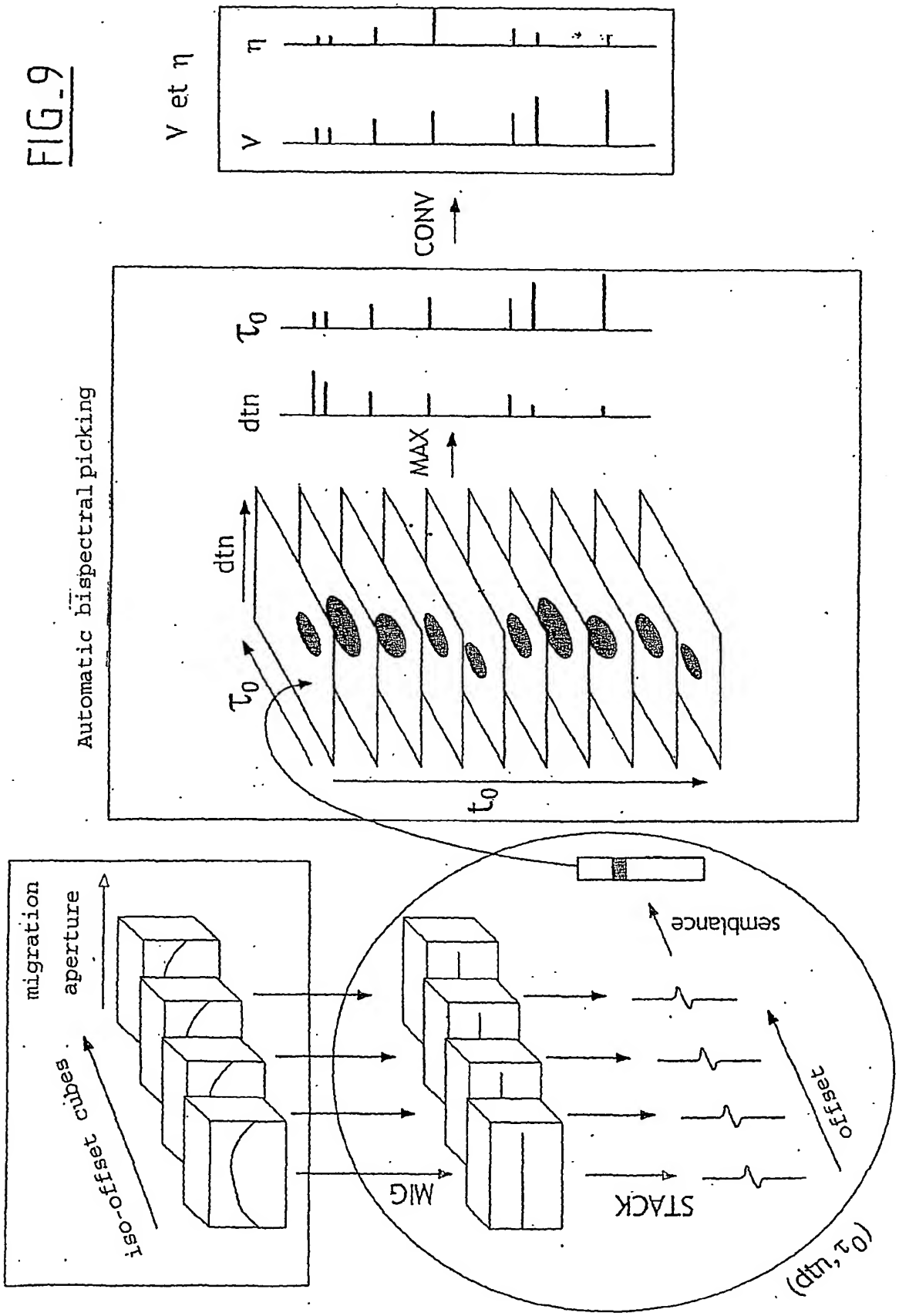

Initialise
• Determine limits of the analysis volume (dtn, τ_0, t_0)
• Calculate NMO corrections $CORR_{PSTM}$ for all nodes (dtn, τ_0) and offsets inside the migration aperture
• Calculate corridor limits of the analyses made
1b
2b
For each gather of traces at midpoint
3b
For each node (dtn, τ_0)
For each offset class:
• Application of NMO corrections $CORR_{PSTM}$ on all midpoints inside the migration aperture, along the corridor
• Summation of corrected midpoints along the corridor
For each t_0 along the corridor:
• Calculate the semblance
• Calculate the summation in offsets
4b
For each picking time t_0
Search for the maximum semblance in the corridor and the corresponding node (dtn, τ_0)
Does the node (dtn, τ_0) correspond to a stack end?
YES
Create the dtn(t_0), τ_0(t_0) and semblance(t_0) series
5b
Select and adjust pickings
• Increasing sort of the semblance series (t_0)
• Reject pickings too close to pickings with strong semblance
• Adjust selected values (dtn, τ_0) by parabolic interpolation
• Reject pairs (dtn, τ_0) for which the Dix interval (dtn, τ_0) with the strongest semblance, are unacceptable
6b
Conversion of pickings dtn, τ_0 into V(t_0) and η(t_0) laws

FIG_9


V et η
η
ν
CONV
Automatic bispectral picking
τ0
dtn
MAX
dtn
τ0
t0
migration aperture
iso-offset cubes
MIG
STACK
offset
semblance
(dtn, τ0)